

and directly behind or within 3 feet of the right or left side of the ladder, or ladders, if there is a ladder on each side of the tank, in letters and figures at least 1½ inches high as follows:

WATER CAPACITY

000000 Pounds

(b) After July 25, 2012, authorized DOT non-pressure tank cars that comply with this section and are equipped with stainless steel identification plates may have the water capacity of the tank in pounds prescribed in the first sentence of paragraph (a) of this section stamped plainly and permanently on their identification plate in conformance with the applicable marking requirements prescribed in §179.24(a) instead of into the metal of the tank or immediately below the stamped marks specified in §179.200-24(a).

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967. Amended at 77 FR 37985, June 25, 2012]

§ 179.201-11 Insulation.

(a) Insulation shall be of sufficient thickness so that the thermal conductance at 60 °F. is not more than 0.075 Btu per hour, per square foot, per degree F. temperature differential.

(b) [Reserved]

§§ 179.202-179.202-22 [Reserved]

§ 179.220 General specifications applicable to nonpressure tank car tanks consisting of an inner container supported within an outer shell (class DOT-115).

§ 179.220-1 Tanks built under these specifications must meet the requirements of §§ 179.220 and 179.221.

§ 179.220-3 Type.

(a) Tanks built under these specifications must consist of an inner container, a support system for the inner container, and an outer shell.

(b) The inner container must be a fusion welded tank of circular cross section with formed heads designed convex outward and must have a manway on top of the tank as prescribed herein. When the inner container is divided

into compartments, each compartment must be considered a separate container.

(c) The outer shell must be a fusion welded tank with formed heads designed convex outward.

[Amdt. 179-9, 36 FR 21340, Nov. 6, 1971]

§ 179.220-4 Insulation.

The annular space between the inner container and the outer shell must contain an approved insulation material.

[Amdt. 179-9, 36 FR 21340, Nov. 6, 1971]

§ 179.220-6 Thickness of plates.

(a) The wall thickness, after forming of the inner container shell and 2:1 ellipsoidal heads must be not less than specified in §179.221-1, or not less than that calculated by the following formula:

$$t = \frac{Pd}{2SE}$$

Where:

d = Inside diameter in inches;

E = 0.9 welded joint efficiency; except $E=1.0$ for seamless heads;

P = Minimum required bursting pressure in psig;

S = Minimum tensile strength of plate material in p.s.i. as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1;

t = Minimum thickness of plate in inches after forming.

(b) The wall thickness after forming of the inner container heads, if flanged and dished, must be not less than specified in §179.221-1, or not less than that calculated by the following formula:

$$t = \frac{5PL}{6SE}$$

Where:

E = 0.9 welded joint efficiency; except $E=1.0$ for seamless heads;

L = Main inside radius to which head is dished, measured on concave side in inches;

P = Minimum required bursting pressure in psig;

S = Minimum tensile strength of plate material in psi as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1 (IBR, see §171.7 of this subchapter);